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ORIGINAL ARTICLE.

Some Remarks on Diarrhea of Infants.

BY THEO. W. PEERS, TOPEKA.

Read before the Topeka Academy of Medicine and Surgery at its September meeting.

The subject of this paper has been changed a little from that announced on the postal cards. I do not desire to discuss all the diseases of the intestines, nor do I desire to give you a complete description of the diarrheas of infants. My purpose is to call your attention to certain phases of the diarrheas of infants which especially impressed me in reading up the subject.

I have read some half dozen authors on the subject, and the first thing that impresses me is the diversity of classification.

Prof. L. Emmett Hall, makes a classification based on the anatomical lesions, but when he comes to describe the different conditions he makes a clinical classification.

So does Drs. Goodhart and Starr, and yet each one has a different list. Another author classifies according to the character of the fæces, and still another has a combination of the two.

I will not weary you with the list, but will give Dr. Holt's clinical classification:

1. Simple diarrhea.
2. Acute mycotic or diarrhea of bacterial origin—
   a. Acute peptic diarrhea.
   b. Cholera infantum.
3. Acute entero-colitis.
4. Chronic diarrhea.

In regard to the etiology of diarrheas, artificial feeding seems to be a factor of first importance. Statistics show 97 per cent. occur in infants who are fed other food than the mother's milk.

The next strongest factor is heat and filth. In the hot months and in filthy districts we always find the largest number and the severest cases. Infants from 6 to 18 months old seem to be the ones most frequently attacked.

In artificial feeding the kind, quality and quantity of food, and the frequency of feeding, are all factors. An infant should have a food suited to it as an individual, and should have that food at regular intervals, and with very little variation in kind. A departure from any one of these points may result in diarrhea.

The pathology of diarrheal affections is not always what we expect as judged by the symptoms. A severe case which results in death sometimes shows no degenerative change in the mucous membrane of the intestines.

The changes which do occur are a congested membrane with some denudation of epithelium. As the disease progresses the mucous membrane may swell, soften and peel off. Then the lymph nodules become inflamed, and we get ulceration if the process continues.

Some symptoms of the various forms of the disease are worthy of note. In some cases there is great prostration, in others very little. So it is with fever and pain, and nervous disturbances. The discharges from the bowels vary greatly—in color, in odor, in frequency, and in consistency. I do not believe authors investigate the causes for these various symptoms as they should. Why do we have fever? Why so great prostration? An answer to these and other questions would give us a chance for rational treatment. In my opinion fever is largely dependent on pathogenic germs, directly or

indirectly. The prostration is greatest when the discharges are greatest, and when they consist largely of serum, Indeed, in any form of diarrhea this kind of stool is a grave symptom.

Perhaps the most frequent color of the feces in diarrhea is green, and the explanation for this has been a matter of discussion. Lesage, a French physician, asserts that the color is due to a specific germ. The color has been shown to be from biliverdin, and has been formed by changing bilirubin —the usual excretion—into biliverdin. We were once told that this was accomplished by acid fermentation in the bowels, but Dr. Pfeiffer showed that none of the acids of fermentation would change the orange stool of a healthy child green, but that alkalies would do so. The green stool is usually acid, but as a rule not as much so as the healthy stool.

He also proved that alkalies would make the stools green by giving a child bicarbonate of soda for two days, getting the characteristic green stool.

The amount and condition of the mucus found in the stools is important as showing the place where the disease is. The more intimately it is mixed with the feces the further the disease is from the rectum. The more jelly like and isolated the nearer it is to the rectum.

Blood is a frequent condition of diarrheas that have lasted for some time. If it is bright and not mixed with the feces it means the disease is in the rectum. Blood from the small intestines is black, thoroughly mixed, or at times like coffee grounds.

The treatment of diarrheas of infants is a most important subject, because so many die from it, and because it is so amenable to treatment. In any disease treatment should suggest prophylaxis, but especially so in these diseases, as most of the cases that occur could and should have been prevented.

The first prophylaxis is proper hygienic surroundings, which should include proper clothing and sleeping. An infant that shows a tendency to diarrheas should wear flannel through the Summer. If not a flannel shirt at least a flannel band.

It should have all the sleep it can be induced to take. The house, cellar, and especially the privy, should be clean. The child should have plenty of fresh air and be out-doors whenever the weather is suitable. The infant needs water and should have plenty of it, and have it pure.

Most important of all, however, is its feeding. If it is nursing and the mother's milk is good, the all important thing is to nurse the child regularly and at not too frequent intervals. Three hours apart for an infant four to eight months old is often enough in hot weather.

But if the baby has to be fed artificially, why then may the Lord have mercy on its bowels! This opens too big a field for discussion in a paper like this, and I will simply state a few principles. The first one is to have everything about the feeding clean. If a bottle and nipple is used scald them out with boiling water before and after every time they are used. Never—with a big N —use a tube.

Next in importance is to use sterilized food, and one that the particular child that is using it can digest.

Third, be regular in feeding and don't feed to much at a time.

Medical treatment presents four indications:

1. To empty bowel.
2. To stop decomposition.
3. Restore healthy action.
4. Treat lesions of the bowels.

If the physician is called early to see the case he should always give something to empty the bowels. The indication for withholding a cathartic is that the discharges have become serous in character.

Castor oil is one of the best cathartics for this purpose, and children will usually take it readily if given—

1. In warm, sweetened milk.
2. One part glycerine two parts oil flavored with oil of cloves.
3. Made up into a chocolate confection.

Next to oil, and preferred by me, is 1-10 grain calomel triturates.

If the case is urgent I give one every half

hour till bowels move. If not, one every hour.

Sulphate of magnesia is equally good in effect, but hard to give to an infant.

The indication is for a mild, quick cathartic, and with that in view each physician may have his preference.

The second indication is of utility only in those diarrheas due to micro.organisms, but they either directly or indirectly are responsible for most of the diarrheas so, as a rule, we use them. I have a preference for sodium and zinc sulpho-carbolate. Using the sodium when the feces are decidedly acid and the zinc when they are profuse and serous. I have also used salol with gratifying results. Listerine is also good. Salicylic acid or salicylate of soda, benzoic acid, carbolic acid, bichloride of mercury and many others are used.

Injections into the bowels are most beneficial when the rectum and colon are the seat of the trouble, but are of little use for the small intestine. Hot water, cold water, or either, charged with one of the above antiseptics, can be used. Tenesmus is best relieved by injections.

Under this head I would include all the remedies used to meet the various symptoms not mentioned above.

Bismuth, subnitrate or subcarbonate is the sheet anchor for the restoration of the intestinal canal to a healthy condition. Along with this I have found peptenzyme to be of real value. A favorite prescription is one composed of—

Bismuth subcarbonate.....3j
Sodium sulpho-carbonate.....3ss
Peptenzyme.....3ss
Dover's powder.....gr. v to xv
Ft. chartes No. xv.

Sig.—One every 2 to 4 hours for infant 18 months.

—if there is much pain and restlessness.

The battle in regard to the use of opium with infants is one that will never be settled, but I find it a very valuable drug in some cases, and by giving it in proper dose and stopping it when you get the result you desire, I do not see how any harm can result. When there is griping pain, tympanitic bowels, and much restlessness, no other drug acts so well. That and belladona, alone or together, are the best drugs I know for the pain. Hyocyamus is valuable.

A preparation of Wyeth Bros. that I have found valuable is Alkaline Elix. Rhei Comp. It is modeled after the old neutralizing mixture.

Chalk mixture is used by many physicians but it is not a favorite with me.

A great many astringent drugs are used, but should only be used in chronic cases, and even then are of doubtful value.

As a rule the medicines used as above will also heal resulting lesions, but often after an attack of diarrhea an infant needs a tonic with iron in it, and a digestive is of use—peptenzyme or pancreatin.

Topeka Academy of Medicine and Surgery.

REPORTED BY MARY V. CHURCH, M.D., SECRETARY.

The Topeka Academy of Medicine and Surgery met in A. O. U. W. Hall Monday evening, September 9, with Dr. Magee in the chair.

The minutes of the preceding meeting were read and accepted after the following correction had been made by Dr. Ward: In Case I, reported by Dr. Ward, Dr. Murphy, of Chicago, was not called in consultation.

Dr. Peers read a paper on "Intestinal Difficulties of Children."

The paper was accepted and the discuswas opened.

Dr. R. E. MeVey: My management of these cases is so dissimilar that I'm afraid it will not be of interest. I believe there are two factors causing the diarrheas of children. 1, Heat; the brain cells are affected by heat. Heat causes spasm of the capillaries of the intestines, which produces alterations in the secretions of the bowels and diarrhea. 2, Fermentation. Treatment is to keep child out of the heat, and relieve the intestines of fermentations. Give calomel, gr. 1-10, in ice water every hour. If that does not relieve give rectal

injections. In cholera infantum withhold food for twenty-four hours and keep the child cool.

Dr. Mitchell: In my practice I am impressed with the importance of a better knowledge in the treatment of children. The older authors always commenced with astringents and the etiology was overlooked. Even now anodynes are given without a proper appreciation of the condition. The course to follow is:

1. Find pathology of condition.
2. Remove the cause.
3. Promote the healing of devastation produced.

I would suggest after the bowel is cleared out, that the nutrition be sustained by something mild, and in small quantities frequently repeated. Whey in small quantities and at regular intervals is good, also rice-water and small quantities of fresh cream. With an irritable stomach suppress all food for a time, and produce quiet and rest.

Sometimes Dover's powders are required, or rectal injections of hot water with a little laudanum.

Dr. Stewart: In speaking of causes we have the indiscretions of the mother; the quality of the milk often being changed by the condition of the mother. Heat is also another cause, but not so much as the circumstances and accompanying surroundings, quality of food and care. The greatest number of cases is among artificially fed infants. The first indication is to clear the intestinal tract and the mildest agent is the best, calomel gr. 1-10, castor oil or any mild cathartic. Lime water should be added to the milk. If the stomach is in a condition to retain food a little sterilized food should always be given. Some babies recover on sterilized food alone without medication. I have almost entirely suspended the use of opium with children. In tenesmus wash out the bowel with hot water. If that does not relieve, then throw into the bowel a white wash made of hot water and bismuth. Astringents should not be used at all.

Dr. Ward: I think this is a very important subject. If a doctor could become immortal it would be through the saving of children. I think there is a very large opening in the treatment of children for new physicians. In this class of cases the clothing should be very light; the diet is usually well known. All depends upon systematic treatment. Opium should be used sometimes A modified Tully's powder is very useful.

Dr. Minney: There has been a disposition among the mass of people to believe in the inability of doctors to cure children. The mortality is so great that they have lost confidence in physicians. Here is certainly a field for the young physician. The mortality is too great. The causes are: first, from without; second, from within. Heat is a great factor. Frequently infants are not sufficiently protected, but sometimes they are too much protected. Hyoscyanus is much better than opium or belladona.

Dr. W. E. McVey: Dr. Peers' paper shows a care and study too uncommon in the papers presented to this society. The underfeeding of infants is as injurious as overfeeding. Many infants are starved from the time they are born until they can eat bread and meat. The size and growth of the child should be the indication of the amount of nourishment required.

Dr. R. E. McVey: Heat enfeebles the brain cells and destroys the tonicity; when this tonicity is restored digestion is restored and with it the child. Microbes have little to do with it. Enfeebled conditions cause altered cell secretions and with it enfeebled nutrition.

Dr. Peers: I use pancreatin and peptemzyme, as a digestive. More children die from improper feeding than any other one cause. A large per cent. of the deaths come from diarrheal difficulties. If a child has been fed on milk withhold all food for twenty-four hours. Move the bowels thoroughly and use water freely. The white of an egg broken up in milk is one of the best foods for a child. I give opium for lymphatic conditions and pain. If the mother's milk is good give the baby all it will take, and if that is not enough give artificial food in addition.

Report of Cases.

BY J. M. FRANKENBURGER, M.D., TOPEKA, KAS.

The first case, that of hemorrhage of the middle ear, I report on account of its comparitive rarity:

January 2, 1895, I was called to see Mrs. G., aged 60, and found her suffering from an attack of erysipelas of right side of face and auricle of ear. I prescribed the usual remedies, and on returning in two days found the disease had left the right side and attacked the left side. Patient complained of severe pain in left ear. While I was sitting by the bedside a discharge of blood, probably a teaspoonful or more, suddenly took place from the ear. On examination of the drumhead, I found a rupture of the anterior quadrant. The patient recovered, with complete restoration of hearing, and on last examination, some weeks later, no scar could be discovered. At no time was there any disease of the kidneys, the urine being tested every day.

Buck speaks of it as being of very rare occurrence, except in renal disease, and Roosa reports but two cases, one of which was followed by an attack of erysipelas, instead of being preceded by erysipelas, as in this case. There was no history of any traumatism, and patient could not remember of ever having had earache, or any trouble whatever with her ears. During the sickness the ear was kept clean by injections of hot carbolized solution.

Roosa, in speaking of this trouble, says: "They are, I think, to be considered as cases of acute inflammation of the lining membrane of the middle ear in which the morbid process has an unusually rapid and violent course, so that not merely an exudation through the walls of the vessels, but an actual breaking down of the walls themselves occurs; there is then such an accumulation of the blood in the cavity of the tympanum that rupture of the drumhead almost necessarily follows."

Epithelioma of the Eye.—The following case is very interesting, inasmuch as it shows how long life may be preserved when we have a malignant trouble in close proximity to the brain:

Mr. G., blacksmith, in good health, no history of any cancerous trouble in his family, at the age of 55, was struck in the eye by a small piece of steel, which penetrated the eyeball, destroying his vision. There being very little reaction, or pain, no attempt was made to recover the piece of steel, and enucleation of eye was not deemed advisable. The injury, to all appearances, healed nicely, and no trouble was complained of, until about two or three months after injury a small superficial sore developed at site of former injury and slowly extended in spite of treatment. It was diagnosed as epithelioma, and enucleation advised but declined. Patient drifted around from one physician to another, and at last fell into the hands of a cancer specialist(?) who agreed to cure it by "eating it out" with his cancer paste. The paste did at least part of its work well, for while it did not eat the cancer out it did succeed in destroying about one-half of the eyeball. The disease slowly progressed, and when I saw the patient, four years later, one-half of the cheek and nose was gone, and the disease extended one inch above and to the temporal side of the eye. The bones of the orbit were almost denuded, and some were freely movable. At the optic foramen, where the optic nerve enters the orbit, was a small tumor about the size of a pea. Very little pain was present, patient complaining only of a slight burning sensation. It was a horrible sight, and the patient came daily to have it cleaned and dressed with the same terrible regularity these undesirable chronic patients always exhibit, until the time of his death, six months later. At the time of death almost all of the left side of his face was gone, several pieces of bone came away and the brain was visible through the orbit for several days before his death. During the last part of his illness the odor in the room was so bad it was almost impossible to secure nurses for him. Toward the last the pain became intense and had to be controlled by large doses of opiates, although the last week he was in a profound stupor from which it was almost impossible to arouse him.

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Topeka, Kansas, Saturday, Sept. 14, 1895.

Dr. Aimes' Case.

Dr. L. L. Aimes, of Richland, Kas., was recently arrested by a dentist in his town on a charge of practicing dentistry without a license. It seems that Dr. Aimes studied and practiced dentistry in New York State before taking his medical degree. Since then he has occasionally put in amalgam fillings, and it was on one of these cases that the charge was made. Dr. Aimes naturally proposes to fight the case through the courts. It will be interesting to the profession to know just where the line will be drawn. Flling teeth is a mere mechanical art. Outside of the mechanical part of dentistry all their work belongs to surgery, and is a field from which it would be hardly possible to bar the graduate in medicine or the practicing physician in Kansas. It strikes us as being a little absurd that so stringent a law should regulate the practice of an art which in no way endangers the life or health of a patient, while the most ignorant pretender may, with no fear of interference practice any of the branches of medicine, a science which deals altogether with health and life. We shall watch the progress of this case with great interest, and we believe we can assure Dr. Aimes the most friendly support of the profession.

DR. AUGUSTA CONRY, of Emporia, Kas., died a few days ago in Colorado. Her death was totally unexpected by her friends. It seems she was suffering, as she supposed, with a pharyngitis and doing well. A rapid exaggeration of symptoms soon led to her death, and it is believed from what can be learned that it was a case of diphtheria. Dr. Conry was one of the best known lady physicians in the State, having an enviable reputation both in surgery and medicine. She was a member of the State Society.

THE Kansas Medical College will open on its sixth course of lectures Tuesday, September, 17. The prospect for a large class is very flattering in spite of the fact that it stands almost alone among western colleges in the adoption of the four-year course. Several good men have been added to its already efficient corps of instructors. The course has been lengthened to four years and a great deal has been added to the curriculum.

THE Colorado Board of Medical Examiners recently announced that henceforth they would not recognize the diploma of any medical college which did not require of students, at the time of graduation of the applicant, an entrance examination and a four years' graded course of seven months in each session.

Missouri Musings.

Doctor (on the witness stand): "I found the individual suffering from a severe contusion under the left orbit with extravasation of blood and ecchymosis into the surrounding cellular tissue, which was in a tumefied state, and accompanied with considerable abrasion of the cuticle."

Judge: "I suppose you mean he had a bad black eye."

Doctor: "Yes, sir."

Judge: "Then why not say so at once."

The police surgical ambulance system in Kansas City has some serious objections. No doubt in hundreds of attempted suicides, accidents and emergencies it is prompt and efficient and does a world of good. But often through lack of discrimination it hurries an unconscious victim into kingdom come. For example, in a recent case where carbolic acid had been taken with suicidal intent and the attending physician was giving antidotes and emetics, the unconscious patient was taken from the physician *vi et armis* to police headquarters, about three miles distant, by two policemen, aided and abetted by the police surgeon who had no stomach pump and wanted to take the patient to the pump instead of bringing the pump to the patient. Of course half an hour of valuable time was lost and the acid did its work. So, oftentimes, in cases of internal hemorrhage and cerebral injuries, the jolting and moving incident to the journey to headquarters often miles away, dislodges some friendly blood clot from a torn vessel and starts the hemorrhage afresh. The sole idea seems to be to get the injured to headquarters as a drowning man must be gotten to shore.

But ambulance wagons should be so complete in equipment that they would be traveling hospitals and render it unnecessary to jeopardize life by conveying the injured to the central office like a telephone message before conveying him to his home.

Kansas and Missouri are so diverse in their laws concerning rape that in the cities at the Kaw's mouth it is necessary to consult the statutes and inquire in what part of the city it occurred to find whether the act was rape or ordinary seduction. In Missouri the age of consent in girls is 14. In Kansas it started at 12, was raised to 14, then to 16, and now is 18 years of age, so that if a man in Kansas City, Kas., seduces a 17-year-old girl, even with her free and voluntary consent, *or invitation*, he is legally guilty of rape because she is legally incompetent, like an insane person or an infant, of giving legal consent.

But if he takes her half a block eastward he is in Missouri and the act, if with her consent, is no crime at all.

The age of consent to sexual intercourse was based upon the physiological law of the age of puberty; which (from pubeo, pubere) means to become mature or fit for procreation, as evidenced by the rounded contour of form, development of hair and breasts, changed voice and the establishment of the menses. The advent of puberty generally occurs at the age of 13 to 15 in the female. Few are sexually mature at 14. At this period there arise newly awakened sensibilities toward the opposite sex—either of timidity and shyness or of attraction, or pertness or love. The young girl is also subject to great vaso motor disturbances dependent upon the new determination of blood to the sexual organs. She has backache, headache, lassitude, palpatation, hemorrhage from nose, lungs, stomach, and nervous disturbances—hysteria and sometimes temporary insanity. At this time, when the young, inexperienced, immature girl of 13, like a crysalis intermediate between girl and womanhood, with a panorama of new tastes and emotions and desires hitherto unknown and now unexplained to her; with very little knowledge of her own sex and less of the other; that she should be thrown upon her own legal responsibility like a plank of driftwood—treasure trove for man's lust—is one of the great legal inconsistencies of the age! It is based upon the crude physiology of the last century and exposes thousands of girls to prostitution.

The age of consent in girls should be raised to correspond not alone with the age of capacity for impregnation, but with the period of full maturity of mind and body, when she has learned to know herself and to understand the physiological law of sex. Till then the protecting arm of the law should shield her as an infant, by inflicting heavy penalties against the seducer.

But, on the other hand, there is some danger of raising the age of consent too high as in Kansas. Since it enables the designing female to have a legal hold upon the weak and erring brother.

At the rate at which the Kansas Legislature has been raising the age of consent in that State it will not be long till a Kansas woman can't give legal consent till she is a legal voter!

"Our Insanity Laws."

The unjust sending of sane persons to asylums as insane is of very rare occurrence, only one case having occurred within my personal knowledge among more than fifteen thousand cases. I agree with the article in the K. M. J., of Aug. 31, entitled "Our Insanity Laws," that laws need revision, but I would put the reasons therefor upon a different basis.

Insanity is a symptom of brain disease, and the diagnosis and treatment thereof properly devolve upon the medical profession. The *trial* of a person to *convict* him of insanity before he can have the advantage of special treatment for his disorder, is really as absurd as trying a patient for dysentery before he can have the advice of his physician, or of trying him for nasal polypi before he is entitled to have a skilled specialist use his snare.

Our present method of *trying patients for insanity* works legal injustice to the insane. It frequently deprives them of the right to timely treatment, because it is necessary that their insanity be so patent as to be clear to the average juror before it is practicable to bring the case into court.

Furthermore, the parading before the courthouse habitues and other curious persons, of the manifestations of insanity, especially in the cases of women, naturally modest and retiring, but under the influence of their disease profane, obscene and lascivious, is an outrage upon sick persons. The proceedings also partake of the odium of criminal trials, and the sick person, male or female, frequently comes to the asylum like a felon, in charge of the sheriff, with a feeling that he has been sentenced. Patients often ask for how long a time they have been "sent up."

It is true that our lunacy laws need revision, but not in the direction of making proceedings in insanity more public or more difficult. The real solution of this question lies in modifying our laws so that when a person is supposed to be insane the case shall first be brought to the attention of the probate judge, who shall appoint a commission of competent physicians to thoroughly examine the case and report to him their findings and the reasons therefor. If the commission finds the person insane, and the findings are satisfactory to the judge, he should be empowered to send the patient to the asylum, always as a sick person, in the care of friends, if possible. If the person is found sane no further action is needed. If the findings are unsatisfactory or incomplete, the judge can appoint a new commission or postpone the case, in his discretion. By a law of this general character properly developed and guarded, the commitment of the insane can be placed where it ought to be, on a medical basis, and all the social, medical and legal rights of the insane person, and of the public as well, be preserved inviolate.

B. D. EASTMAN,
Superintendent Topeka Insane Asylum.

DR. BALDY suggests that in cases of puerperal septicæmia the curette should be used early, and, if necessary, a hysterectomy should be done as it is preferable to almost certain death.

The Treatment of Diabetes Mellitus.

Robin (*British Medical Journal*) describes in detail the medical treatment—"alternating treatment"—which he prescribes in diabetes. He believes that in this disease there is an increased activity of the chemical changes of general nutrition, and of the hepatic cells in particular, which is the result of increased activity of the nervous system. Hence he recommends drugs which diminish the activity of these general changes by acting primarily on the nervous system. The treatment is divided into three stages:

1. For four days a powder, containing about fifteen grains of antipyrin and eight grains of sodium bicarbonate, is given twice a day. In addition to cod liver oil is taken twice a day with the meals, and Seignette salt as a morning purgative.

2. At the end of four or five days the antipyrin is discontinued, and sulphate of quinine prescribed—about six grains in a cachet at the midday meal. This is taken for six days. Before the morning and evening meals a chet is recommended containing arseniate of soda, cabonate of lithium, and codeia.

3. After fifteen days these drugs are discontinued, and the author prescribes, for ten days, a pill containing opium, belladonna, and valerian. The cod liver oil is discontinued, and the patient is allowed to drink a weak solution of bicarbonate of soda (1 in 125). In the case of nervous women, or if there should be intolerence of the opium and belladonna pills, fifteen grains of potassium bromide are given two or three times a day for eight days. In addition to the medical treatment the diet is regulated. On account of the loss of inorganic salts in diabetes (demineralization) the author recommends the food to be well salted; to supply potassium salts he advises green vegetables, especially cabbage and endive, and also a weak solution of potassium tartrate to dilute the wine taken at meals; and to counteract the loss of phosphates of magnesium and calcium he prescribes glycero-phosphates of lime and magnesia. He also recommends boullion on account of the inorganic salts which it contains. If sugar is still present in the urine after the third stage of the medical treatment above mentioned the course is recommenced. After a second course, whether sugar has disappeared or not, the drugs are discontinued for one month.

Robin has treated by this alternating method 100 cases of diabetes, in each of which the daily quantity of sugar excreted was 100 grammes or more. In 24 of these recovery has occurred; in 25 recovery is still doubtful; in 33 there has been considerable and permanent improvement; in 18 the results have been negative.

For the Relief of Pruritus Vulvae.

Medical News.

A strong solution of methylene blue is recommended by Madden (*Provincial Medical Journal*, No. 153) as an analgesic lotion in the treatment of pruritus of the vulva area. An essential point in the local treatment of this condition is to secure asepsis of the parts by frequent ablutions with hot water (120° F.) and the use of some antiseptic detergent, followed on each occasion by the application of mercuric chloride 1-1000, or other antiseptic wash. Thus prepared, the parts are ready for the application of the antipruritic lotion, which, in conjunction with the internal use of the same agent, in two-grain pills, two or three times a day, is said to bring about marked relief. The persistent local coloration produced by the application of methylene-blue is an objection to its employment.

ACCORDING to recent investigations the presence of acetone in the urine of a pregnant woman indicates a dead fœtus. In an examination of the urine of 139 pregnant women acetone was found in nine cases and in each of these there was a dead fœtus. In one case in which it was supposed the fœtus was dead no acetone was found and the woman was subsequently delivered of a living child.

Dropsy in Renal Diseases.

H. Senator in Berl. klin. Worchnschr.

When we talk of renal dropsy we mean a particular kind, one which appears only in renal diseases and is dintinguished from other kinds by certain peculiarities. But, then, other varities may also be met with the kidney affections, thus, e.g.: the dropsy of venous congestion, which occurs when the heart muscles becomes incompetent, is noticed quite frequently. It is seen chiefly in the different kinds of contracted kidneys when the hypertrophied cardiac muscle is either temporarily or permanently incapacitated. We then get the same signs, etc., that occur in disturbances of compensation in valvular lesions, i.e., cyanosis, venous engorgement, and a rising of the dropsy from the dependent parts upward, together with a urine characteristic of this condition.

Another form of dropsy found in renal diseases, although by no means characteristic thereof, is the so-called "hydrops cacheticus," which appears when severe disturbances in nutrition obtain, no matter upon what causes such disturbances are dependent.

The characteristics of true renal dropsy are that it appears very early in the disease; in fact, at times it is the first symptoms of the disease; then it appears principally in certain places, at which it regularly first shows itself and to which places it is very often confined, viz., the eyelids, over the tibia, and scrotum.

A third peculiarity renal dropsy is the fact that it often spreads remarkably fast, attacking not only the skin as anasarca, but also the various cavities of the body, the serous sacs, the brain, the mucous membranes, etc.

Finally the striking pallor of such patients, especially in contradistinction to the cyanosis of the ordinary dropsy, due to venous engorgement, is a distinguishing feature of this form of dropsy. All these peculiarities taken together are so characteristic that we are often able, at the first glance, to recognize the condition as one of renal dropsy.

As regards the causes of this dropsy, Bright gave the following explanation: The consistence of the blood, owing to the loss of albumin, becomes very watery, or as we call it, hydremic, and that the serum, therefore, transudes into the tissues.

But this theory has been disproved. In the acute cases—and the dropsy in scarlet fever may be considered as the type of such cases—the dropsy appears so early that there can be present neither any great loss of albumin nor a hydremic condition of the blood.

It even happens, though rarely, that the dropsy manifests itself before almuminuria is present. And in very rare cases dropsy has been noticed without the presence of albumin in the urine, although the autopsy revealed a nephritis.

But even the ordinary cases do not show such a loss of albumin, nor such a poor general nutrition as the hydremic condition of patients suffering from cancer, and in these last cases there is to be found either no dropsy at all, or at most only a slight edema about the ankles.

Grainger Stewart and Bartels asserted that the dropsy depended on a serous plethora, and made some very interesting experiments on dogs to prove this; but the evidence adduced was not conclusive.

Cohnheim's theory of the cause of the dropsy was that the blood vessels in the subcutaneous tissue were in an inflammatory, or, more generally speaking, in an abnormal, condition, and that on this account the serum readily transuded. He, however, overlooked the existence of serum in various cavities. But this objection is easily set aside by supposing that the blood vessels of the serous or subserous tissues are in a similarly abnormal state.

In nephritis, after scarlet fever, exposure to cold, and malaria, we regularly find dropsy. In nearly all the other forms it is rare to have this condition.

Now, the great characteristic difference between these two varieties is the fact that the glomeruli are the principal seats of inflammation in the first variety. In the

other infectious diseases the nephritis is parenchymatous, i,e., the epithelium of the uriniferous tubules is first attacked.

The author believes that the toxin, which csuses the nephritis, first attacks the blood vessels, and of all these the capillaries in the glomeruli, because here the blood is at a higher pressure than anywhere else in the body, besides flowing very slowly, and thus having more opportunity to act on the walls of the blood vessels.

The Etiology and Treatment of Inflammation of the Uterine Appendages.

Pacific Medical Journal.

Dr. Augustin H. Goelet, of New York, read a paper on this subject at the recent meeting of the American Medical Association at Baltimore, in which he stated that the contention was not that these inflammations of the tubes and ovaries can always be cured, but that it is frequently possible and, unless immediate operative interference is absolutely demanded, the patient should be given the chance and the attempt should be made before submitting her to a radical operation. This he thought particularly important since treatment directed toward attaining this end did not militate against a subsequent operation for their removal should it become necessary, but, on the contrary, improved the chances of an ultimate successful result.

He called attention to the fact that when once removed these organs cannot be replaced, and asked the question if it was not a serious error in the light of recent developments in the etiology and pathology of the inflammations of the appendages to remove these organs without previous attempt at a cure or removal of the cause which may be operating to maintain such condition. It may be denied that diseased tubes and ovaries are removed unnecessarily, but it must be admitted that they are too often removed for disease which is amenable to patient and persistent treatment, or which may be cured by a minor surgical operation, involving no risk, such as curettage or repair of a lacerated cervix.

If these cases are submitted to careful treatment instituted for the purpose of clearing up the surrounding exudation and favoring drainage through the natural channel (the uterus) in many instances the necessity for a radical operation would be removed, and the woman would be restored to a life of usefulness and happiness.

In corroboration of these views he reported twelve selected cases which had come to him from other gynecologists who believed that removal of the diseased organs was the only method to be adopted for restoration of their health, yet these patients recovered completely without the loss of these organs.

The writer stated that these were not the only cases with such an unfavorable outlook which he had been able to cure in this manner, but they had been selected from among a number of others because they had consulted other gynecologists before they came under his observation.

Potassium Permanganate in Pulmonary Tuberculosis.

Medical Record.

The author has employed potassium permanganate in four cases of pulmonary tuberculosis with gratifying results. One patient was a phthisical boy, who had cavities on both sides. The author stayed with the patient during the treatment. In the first five days of the usual medication no improvement could be observed. The patient continued feverish, coughing, weak, rather sleepless, and perspiring at night, the usual means having failed to help; creosote, after being used for several days, was refused by the patient. Dr. B. gave him then a drinking glass of light-red solution of potassium permanganate half an hour before breakfast, and a solution of 10 grains (0.6 gme.) of salicylic acid before going to bed, on eight succeeding days. The author considers the latter far superior to quinine in tuberculosis, as it not only does not

interfere with digestion, but rather promotes it.

A couple of days later the patient felt much better, and could go out into the open air without feeling chilly. Eight days after commencing this treatment the patient enjoyed his meals—ate three eggs for breakfast, slept well, did not sweat any more, and was in excellent spirits. On the fourteenth day he was able to walk three miles. The pulmonary cavities were then almost healed, his appearance and face looked surprisingly well.

In two other cases of less grave tuberculosis, the author experienced the same good effect with the same treatment. The fourth case was a combination of influenza, with symptoms of tuberculosis. An hour and a half after breakfast the patient was given a drinking glass of a dark-red solution of potassium permanganate, five times a week, and a solution of 10 grains (0.6 gme.) of salicylic acid before going to bed. The patient recovered quickly, but, on account of relapses produced by her mode of living, this treatment had to be repeated several times, which always was beneficial to her.

Taka Diastase.

Ferdinanc Lascar, Ph.G., in Therapeutic Gazette, July 15.

In the human system a continued waste takes place which it is necessary to provide for, and to this end man partakes of food which must contain the elements for this purpose. To bring such food products into proper form, so that they can be assimilated and taken up in the system, the digestive organs perform their functions, and these are of a mechanical and chemical order. The food needed is both animal and vegetable in nature, the latter forming by far the greater and more important part. It can truly be said that upon the proper digestion of his food man's health, happiness, and very life depend, and progressive science has fully demonstrated the unerring truth of this. Any irregularity or fault in the process of digestion very soon becomes manifest, and dyspepsia, malnutrition, and ill health follow. As the food man partakes of is twofold, so is the process of digestion a twofold one, animal and nitrogenous foods need an alkaline process to bring them into a soluble form ready for assimilation. The general idea about faulty digestion is that the stomach performs its duties improperly. While this, in very many instances, is undoubtedly so, the fact is, nevertheless, that in the greater number of cases of impaired digestion improperly performed processes of other organs are at the bottom of the evil in failing to properly convert the starchy food partaken of.

The changing of amylaceous food into dextrose and maltose is the beginning of digestion. All will have observed that bread, crackers, or potatoes, not being sweet in themselves, very soon become so when masticated and thoroughly mixed with the saliva in the mouth, and that their taste becomes sweeter the longer this is continued. This sweet taste is due to the conversion of the hydrated starch by the action of the saliva, the saliva containing an enzyme called ptyalin, which, by its presence, splits up the starch into soluble products which I will mention later on, and this splitting-up process of the starchy food even continues after it has left the stomach. Animal foods needing the acids which are found in the stomach are digested there, but acids materially interfere with the action of enzymes which cause the conversion of starch, even destroying such action altogether. For this reason it seems practically incorrect to say that the conversion of starch continues after it leaves the mouth; but nature has provided against a too soon interference of acids, because it is now well understood that acid, especially hydrochloric acid, is secreted in the stomach a considerable time after the food has arrived there, and this may be one of the reasons why the converting of starch continues after it has left the mouth.

Since medical science has thoroughly grasped the philosophy of digestion, it has been the aim by artificial means to supply the enzymes which digestion calls for when they do not appear to be present in a sufficient quantity or are secreted in less potent

form by the digestive organs. Science has succeeded fairly well in supplying gastric and pancreatic ferments when nature lags behind; but our success has so far been only a very partial one in supplying starch-converting substances, and for this reason a new and seemingly valuable discovery in this direction at once becomes interesting.

That diastase has an identical action with ptyalin upon starch is a fact long known, and for this reason the diastase contained in malt has been employed for this purpose. Diastase is contained to a lesser or greater extent in the different extracts of malt, and in minute quantities also in fermented malt preparations. In the latter the diastatic action, however, is generally totally destroyed by the acids present. Even in the best extract of malt there is only a limited and variable amount of diastase present; and while the extract of malt will continue to play an important role as a dietetic agent its utility as a starch-converting agent will always remain a limited one. From time to time pure diastase has been offered to the profession, but none has so far proved of a sufficient potency to recommend itself to general use. Great progress in this direction is the discovery of Mr. Takamine, a chemist of no mean ability, who acted as one of the commissioners of Japan at the Cotton Exhibition in New Orleans several years ago. At that time he showed me an extract of malt, as manufactured in Japan, very rich in diastase and nutritive properties, and which I have mentioned in a paper on the diastatic and nutritive properties of malt extracts, published in the December number, 1891, of the *Epitome of Medicine*. In that paper I warned against too great heat in the manufacture of malt extracts, as heat impairs, and is even liable to totally destroy, the diastatic action. The avoiding of all undue heat in preparing diastase may be one of the reasons why the diastase which is now manufactured by Parke, Davis & Co., under Mr. Takamine's discoveries, is so perfect in its action in converting starch into maltose and dextrose. His product is a dry powder similar in appearance to some I received from a reputable german firm years ago, but is vastly superior in potency. Since the receipt of this German preparation I have frequently had occasion to experiment with various diastases, some being named vegetable ptyalin, but in no instance have they come up to the desired standard, and failed to fill the void felt for an enzyme which will accomplish what the enzyme of saliva in a healthy individual does accomplish.

In comparing notes of experiments lately conducted with taka diastase, other available diastases, and different extracts of malt, I find that the claim of the taka diastase that it will convert a hundred times its own weight of starch into a soluble state is well authenticated, for I have succeeded in converting even 50 per cent. more of starch than is claimed for it. Another point in favor of taka diastase above other similar products is the quickness of its action upon starch, for the action is almost instantaneous. To convert 100 parts of starch into a soluble state by the action of one part of taka diastase, under proper conditions, it takes only four minutes until neither iodine test nor the microscope can detect unconverted starch. The product of converted starch with Mr. Takamine's taka diastase is to a great extent maltose. Compared with the time required by the best extract of malt to convert starch, this is certainly an excellent showing, for it took the best malt extract between seven and eight minutes to convert its own weight of starch into a soluble state, while with some other extracts of malt it took fifteen, twenty and thirty minutes to partially accomplish this end. Tests with Fehling's solution to ascertain in the converted starch products the amount of contained sugar therein were equally favorable to taka diastase.

In converting starch into a soluble state by the action of diastase, the rearranging of the molecules of starch is understood to be as follows:

Starch ($C_{12}H_{20}O_{10}$) 10 plus water, H_2O, are first formed into erythro dextrose and maltose.

$$(C_{12}H_{20}O_{10})_9 \text{ and } C_{12}H_{22}O_{11}$$

By the continued action of diastase fur-

ther hydration of the erythro-dextrose takes place.

The erythro-dextrose further splits up into erythro-dextrous-B and maltose, the ultimate result being a small amount of dextrin (anchro-dextrose) and eight or nine equivalents of maltose. Since Leuch's discovery of the specific starch-converting property of saliva and its ptyaline, we have lacked an agent of sufficient potency to accomplish what good healthy saliva does, and, for the first time, we find in taka diastase a substitute of undeubted worth, which, even in the presence of a minute quantity of acid, does not cease to be potent. The ptyaline in saliva is present there in a neutral or weak alkaline state, and for this reason it suggests itself that diastase, being an analogue with the former, acts also at its best in such a state, and is incompatible with acids. I employed in the greater number of my experiments with diastase carefully washed arrow root,—a perfectly bland and neutral starch; but I found that starches giving a slight acid reaction on blue litmus were equally well converted by taka diastase. In testing diastase as to its potency, I would recommend that the iodine as well as the copper tests be employed, and that undue employment of heat under all circumstances should be guarded against, as heat, as already mentioned, destroys the action of diastase.

Taka diastase being a dry powder, tasteless and of no perceptible odor, can be given in very small bulk, and for this reason I think it will prove itself of value in infant feeding, where it is desirable to give starch-containing foods, provided said food would easily dissolve and the infant's saliva could be relied upon to perform that function. That the new diastase is destined to become a favorite with the profession I have no doubt, having acquainted myself with its potency in converting starch in a minimum of time into a form ready for absorption by the system, and I think it will be found the very remedy for which we have waited so long.

Anæmic Patients Who Have Malarial Cachexia.

Dr. T. D. Crothers, editor of *The Quarterly Journal of Inebriety*, published under the auspices of the American Association for the Study and Cure of Inebriates, and who is an authority on neurosis, writes in his last number as follows: Antikamnia and quinine are put up in tablet form, each tablet containing two and one-half grains of antikamnia and two and one-half grains of quinine, and is the most satisfactory mode of exhibition. This combination is especially valuable in headache (hemicrania) and the neuralgias occurring in anæmic patients who have malarial cachexia, and in a large number of affections more or less dependent upon this cachectic condition.

VIRCHOW has made the following observations at the hospital of the antitoxin treatment of diphtheria: For eight weeks all cases were treated with the serum and there were fifty-five recoveries and eight deaths. For the next seven weeks all cases were treated by the usual methods, without the serum, and there were fifty-four recoveries and fifty-five deaths. In the next six weeks all cases were treated with the serum again, with sixty-nine recoveries and twelve deaths. He claims these results as proof positive of the benefit of this method. —*Chicago Medical Times.*

SUGAR in concentrated solutions or in substance is an antiseptic, and in the absence of a better agent may be used with satisfaction in dressing wounds.

WANTED.—A set of Reference Hand Book. Any one having a set and wishing to dispose of it, address this office.

WE have a Yale Chair in first class condition, for sale.